



UNITED STATES DEPARTMENT OF COMMERCE  
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06/555-426	01/23/86	NILSSON	C

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EXAMINER	
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ART UNIT	PAPER NUMBER
E.E.C.	27

DATE MAILED: 02/29/86

This is a communication from the examiner in charge of your application.

COMMISSIONER OF PATENTS AND TRADEMARKS

This application has been examined       Responsive to communication filed on \_\_\_\_\_       This action is made final.

A shortened statutory period for response to this action is set to expire 3 month(s), \_\_\_\_\_ days from the date of this letter.  
Failure to respond within the period for response will cause the application to become abandoned. 35 U.S.C. 133

Part I THE FOLLOWING ATTACHMENT(S) ARE PART OF THIS ACTION:

1.  Notice of References Cited by Examiner, PTO-892.      2.  Notice re Patent Drawing, PTO-948.  
3.  Notice of Art Cited by Applicant, PTO-1449      4.  Notice of informal Patent Application, Form PTO-152  
5.  Information on How to Effect Drawing Changes, PTO-1474      6.  \_\_\_\_\_

Part II SUMMARY OF ACTION

1.  Claims 116 - 123 are pending in the application.

Of the above, claims \_\_\_\_\_ are withdrawn from consideration.

2.  Claims \_\_\_\_\_ have been cancelled.

3.  Claims \_\_\_\_\_ are allowed.

4.  Claims 116 - 123 are rejected.

5.  Claims \_\_\_\_\_ are objected to.

6.  Claims \_\_\_\_\_ are subject to restriction or election requirement.

7.  This application has been filed with informal drawings which are acceptable for examination purposes until such time as allowable subject matter is indicated.

8.  Allowable subject matter having been indicated, formal drawings are required in response to this Office action.

9.  The corrected or substitute drawings have been received on \_\_\_\_\_. These drawings are  acceptable;  
 not acceptable (see explanation).

10.  The  proposed drawing correction and/or the  proposed additional or substitute sheet(s) of drawings, filed on \_\_\_\_\_,  
has (have) been  approved by the examiner.  disapproved by the examiner (see explanation).

11.  The proposed drawing correction, filed \_\_\_\_\_, has been  approved.  disapproved (see explanation). However,  
the Patent and Trademark Office no longer makes drawing changes. It is now applicant's responsibility to ensure that the drawings are  
corrected. Corrections MUST be effected in accordance with the instructions set forth on the attached letter "INFORMATION ON HOW TO  
EFFECT DRAWING CHANGES", PTO-1474.

12.  Acknowledgment is made of the claim for priority under 35 U.S.C. 119. The certified copy has  been received  not been received  
 been filed in parent application, serial no. \_\_\_\_\_; filed on \_\_\_\_\_.

13.  Since this application appears to be in condition for allowance except for formal matters, prosecution as to the merits is closed in  
accordance with the practice under Ex parte Quayle, 1935 C.D. 11; 453 O.G. 213.

14.  Other

The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

Claims 116 to 123 appear in the case.

Claim 119 is rejected under 35 U.S.C. 112, first paragraph, as the disclosure is enabling only for claims limited in accordance with the disclosure at pages 5-16 of the specification. See MPEP 706.03(n) and 706.03(z). The last three lines of claim 119 find no response in figure 2 of the disclosure. As to the claimed function of the last three lines in the claim, this appears to be found in capacitor 68 of figure 2. See the specification, page 9, bottom incomplete paragraph. But this connection is not as claimed; capacitor 68 is in parallel with transistor 43.

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(b) the invention was patented or

described in a printed publication  
in this or a foreign country or in  
public use or on sale in this  
country, more than one year prior to  
the date of application for patent  
in the United States.

Claims 120 and 121 are rejected under 35 U.S.C.  
102(a) as being clearly anticipated by Rhoads. Note  
that load means T2, R4, C3 of Rhoads are connected from  
center-tap A with the bottom AC input line through  
connect means 36, S1 and 34 (fig. 2A).

Claims 116, 118, and 122 are rejected under 35  
U.S.C. 102(a) as being anticipated by Rhoads.

Although it is not described as such, Rhoads  
circuit (fig. 2A) includes a series connected inductor  
(primary of T2) and capacitor (C3) connected as  
claimed, having an inherently lower frequency than the  
fundamental frequency of the inverter output. The load  
and the means to connect the load "read on" resistor R4  
and its connection to C3.

Claim 123 is rejected under 35 U.S.C. 102(b) as  
being anticipated by Grunwaldt.

The claim finds full response in figure 2 of the  
reference showing LC circuit 6, 7, lamp 8 connected in  
parallel circuit with capacitor 7, and a transformer 5  
operating the inverter "at a frequency that is not  
higher than the natural resonant frequency of the  
series combination of said inductor and capacitor"

(claim 123, last three lines). Indeed, the inverter operates at the resonant frequency of LC circuit 6,7 through feedback transformer 5.

Claims 117 and 119 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which the applicant regards as the invention. The function attributed to the last three lines of each claim appears to be misdescriptive; the stated function of the capacitors is to "restrain[s] the rate of voltage change across the collector and emitter terminals of transistor 42" (claim 117) or to "restrain[s] the rate of voltage <sup>rise</sup> ~~use~~ on the collectors [of transistors 91, 92]," (claim 119; spec. pages 9 and 16). Thus the claimed and stated functions are in conflict.

The following is a quotation of 35 U.S.C. 103 which forms the basis for all obviousness rejections set forth in this Office action:

A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person

having ordinary skill in the art to  
which said subject matter pertains.

Patentability shall not be negated by  
the manner in which the invention was  
made.

Claim 117 is rejected under 35 U.S.C. 103 as being  
unpatentable over Rhoads in view of the Swiss  
reference. Except for the claimed capacitor across the  
LC circuit (interpreted to be a cross a collector  
emitter path of a switching transistor), the claim is  
anticipated by Rhoads. But the Swiss reference shows  
this provision to be old (see C1, C2 and the Abstract).  
To so provide Rhoad's inverter would have improved it.

Claim 116 is rejected under 35 U.S.C. 103 as being  
unpatentable over Official Notice. Official Notice is  
taken that a series resonant inductor and capacitor  
connected across the output terminals of an inverter is  
old. To operate the inverter frequency at less than  
the resonant frequency, more than the resonant  
frequency or in phase with the resonant frequency, in  
and of itself, produces no unexpected results, and to  
place a load, such as an oscilloscope, across the  
capacitor would similarly not produce patentable  
invention. In essence, this is all that is claimed,  
and it is well settled that expected results are  
evidence of obviousness.

As to the last paragraph of applicant's Remarks,  
submitted November 23, 1983, reference is made to the

parent case for an indication of allowable subject matter.

The claims in this case are drawn to more than one distinct invention or inventive concept. Compare, for example, the concepts of claims 116, 122 and 123, with the concepts of claim 117 and 119, or claims 129 and 121, or claim 118. All claims have been examined in the interest of cost effectiveness to both applicant and the Office. Should applicant unduly multiply, combine or permute these concepts by submitting an undue number of additional claims drawn to each concept, the examiner reserves his right to make a restriction requirement in response to such amendment and force applicant to choose just one inventive concept for further prosecution.

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Figure 5 of Walden shows a half-bridge inverter using a resonant LC circuit across the center tap of DC source 50, 52 and the midpoint of transistor 42, 44. Pitel shows a resonant circuit (55, 57, 59) at an inverter output.

Any inquiry concerning this communication should be directed to William H. Beha, Jr. at telephone number 703-557-5050.

Beha/lg  
703-557-5050  
2/27/84

*William H. Beha, Jr.*